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U. S. DEPARTMENT OF AGRICULTURE

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GRAIN INSPECTION AND GRADING

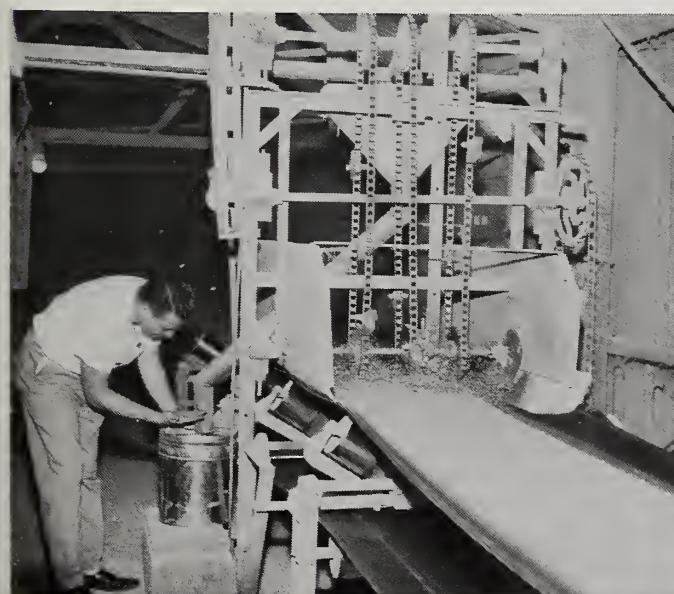
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American farmers strive to produce the best grain possible. They realize the importance of weight per bushel (plumpness), freedom from damage (soundness), and freedom from filth (rodent and insect control). Also important are purity of type, dryness and overall condition. These factors influence price and profit, as nearly all grain--whether for feed or for food--sells by grade. Most grain enters commercial channels at country elevators where quality is graded by elevator employees.

When sold by grade and shipped across State lines to terminal markets, the grain becomes subject to the U. S. Grain Standards Act. Official USDA grades must then be used, and inspection and grading must then be done by inspectors licensed by USDA but employed by States or by grain exchanges at major markets. These licensed inspectors are supervised by the Grain Division in USDA's Agricultural Marketing Service. When thus graded, a grain inspection certificate is issued and buyers and sellers around the world can determine exactly how much any specific shipment is worth to them at any given time, without actually seeing the grain.

These photographs, describing steps in determining official grain grades, were taken for USDA's Agricultural Marketing Service at official inspection points at New Orleans, Louisiana.



N-30108--If the grain comes into the terminal market on a barge, a conveyor belt carries it to the elevator. As the barge is unloaded, this mechanical sampler draws a representative sample. The sampler examines the grain as it is sampled, watching for variations in quality.



N-30105--A representative sample is needed for accurate grading. So inspectors, licensed by USDA, make every effort to secure representative samples from all parts of a carload. This grain sampler prepares to sample a carload of shelled corn by pushing a grain probe into the corn. Note canvas sampling cloth and sample bag.



N-30106--When the probe is fully inserted, a twist of the wrist opens the holes along the probe. Two quick shakes and it is filled. Another twist of the wrist, and the holes are closed. The filled probe can then be pulled up. The sample is then laid on the sampling cloth. The sampler examines it closely for variations and pours it into a sample bag.



N-30100--Every sample must be identified at the time of sampling by means of a sample ticket. Here, a USDA-licensed inspector enters the information from the sample ticket in a log book and assigns it a laboratory number.

Magazines and newspapers may obtain glossy prints of any of these photographs from the Photography Division, Office of Information, U. S. Department of Agriculture, Washington 25, D. C. Others may purchase prints (8 x 10) at \$1.00 each from the same address.



N-30098--Test weight per bushel is important in determining grade. The inspector is pouring grain into a funnel preparatory to filling the test-weight bucket. The scales, just above the inspector's elbows, are tested frequently for accuracy.



N-30099--Inspector at the right is attaching test-weight bucket to scale beam to determine weight per bushel. At left, large samples are divided by cone-shaped divider into two parts, then redivided until a small "working" sample is obtained.



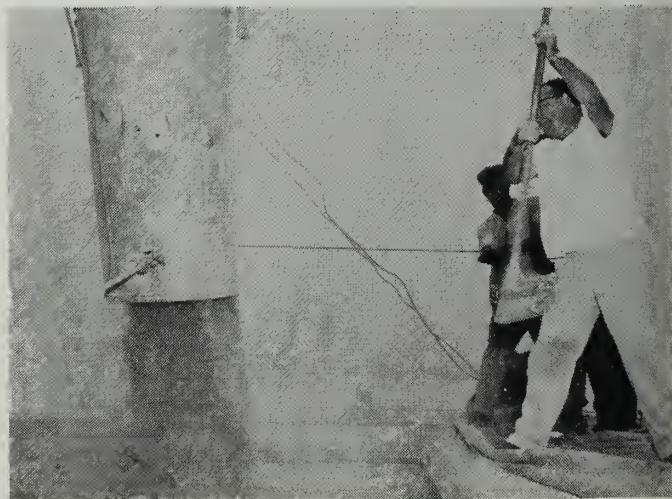
N-30104--Is the grain sound? Is it uncontaminated? Both buyer and seller need to know. Only close inspection will tell. This USDA-licensed inspector examines a "working" sample of wheat for damaged kernels. The small balance or scale at right--sensitive to 1-100th of a gram--is used in determining the percentage of damaged kernels.



N-30101--The buyer wants to know how sound the kernels of corn are in the corn he is thinking of buying. Too many broken, off-color, or damaged kernels may show it unsuitable for his needs. Close inspection of a typical sample by a USDA-licensed inspector will show how much of the off-grade corn is present.



N-30103--This licensed inspector with the New Orleans Board of Trade is dividing a corn sample into a working sample. When the job of grading is completed, a prospective buyer will know the quality of the grain. He will bid accordingly.



N-30109--Degrees of damage, foreign material and moisture content can change a grain shipment's grade as it progresses through commercial channels. Foreign buyers want to know the grade at point of export. Here, a pelican spout sampler is used to draw a sample of wheat being loaded into a ship's hold. This method, as well as the mechanical sampler, is used at the export markets.